IN THE CLAIMS

Claim 1 has been amended as follows:

1. (Currently Amended) A method to spatially localize a region in a biological tissue section that, at least during an examination, exhibits a fluorescence property different from the tissue section, due to which, given an exposure with light of a first wavelength, light of another wavelength is emitted, comprising the steps of:

(a) applying a sequence of fluorescence-exciting light signals at different locations on the tissue-section;

(b) measuring fluorescence light arising due to the light signals, at a plurality of measurement locations on a surface of the tissue section, and thereby obtaining response signals;

(c) determining frequency-independent signal portions in the response signals and further processing the frequency-independent signal portions into input values for localization;

(d) modeling the tissue section and determining a set of lead fields from the model; and

(e) transforming the lead fields and comparing the input values processed from the frequency-independent signal portions with the transformed lead fields, and ~~emitting~~ identifying a three-dimensional location of the transformed lead fields that best reproduces the frequency-independent signal portions, and emitting the identified three-dimensional location of the transformed lead fields as a three-dimensional location of the region to be localized.

2. (Original) A method as claimed in claim 1, comprising marking the regions with fluorescing markers to generate the various fluorescence properties.

3. (Original) A method as claimed in claim 1 wherein step (a) comprises generating the fluorescence-exciting light signals with various modulation frequencies and radiating the light signals into the tissue section.

4. (Original) A method as claimed in claim 3 comprising radiating the fluorescence-exciting light signals as laser light of suitable wavelength.

5. (Previously Presented) A method as claimed in claim 1, comprising normalizing said lead fields before step (e).

6. (Previously Presented) A method as claimed in claim 1, wherein step (e) comprises transforming the lead fields into orthogonal lead fields.

7. (Previously Presented) A method as claimed in claim 6, comprising determining the orthogonal lead fields from the lead fields by a singular-value decomposition.

8. (Original) A method as claimed in claim 7, comprising determining optical parameters with reference measurements in non-fluorescence-exciting wavelengths by estimation.

Claim 9 has been amended as follows:

9. (Currently Amended) A device for spatially localizing a region in a biological tissue section, that at least during an examination, exhibits a fluorescence property different from the tissue section, said device comprising:

an arrangement of light sensors distributed on a surface of the tissue section;

a laser diode arrangement that emits fluorescence-exciting light that interacts with a fluorescing marked region in the tissue section, causing the

marked region to emit fluorescence-exited light that is detected by the light sensors in a two-dimensional measurement value distribution, said light sensors generating response signals corresponding to said two-dimensional measurement value distribution; and

a processor supplied with said response signals, said processor being configured to determine frequency-independent signal portions in the response signals and to further process the frequency-independent signal portions into input values for localization, and to model the tissue section and determine a set of lead fields from the model, and to transform the lead fields and to compare the input values processed from the frequency-independent signal portions with the transformed lead fields, and to ~~emit~~ identify a three-dimensional location of the transformed lead fields that best reproduces the frequency-independent signal portions, and to emit the identified three-dimensional location of the transformed lead fields as a three-dimensional location of the region to be localized.

10. (Original) A device as claimed in claim 9 wherein said arrangement of light sensors comprises a first set of light sensors and a second set of light sensors adapted to be respectively disposed on opposite sides of said tissue section.

11. (Original) A device as claimed in claim 9 comprising an x-ray mammography apparatus having two compression plates, and wherein said light sensor arrangement is integrated into at least one of said compression plates.

12. (Previously Presented) A device as claimed in claim 9 wherein said arrangement of light sensors comprises a flexible mounting for said light sensors.

13. (Original) A device as claimed in claim 9 wherein said arrangement of light sensors comprises a curved mounting for said light sensors.